

Appl. No. 10/066,072
Amdt. dated July 14, 2005
Reply to Office Action of January 14, 2005

PATENT

REMARKS/ARGUMENTS

Claims 1, 3, 8-11, 13-14, 17-20, 22-24, 26-28, 31, and 33-34 remain pending in the application. Applicant, by this paper, cancels claims 2, 4-5, 12, 21, without prejudice and amends claims 1, 3, 8, 11, 13, 14, 20, 22, 23, 26, and 31. Applicant presents claims 1, 3, 8-11, 13-14, 17-20, 22-24, 26-28, 31, and 33-34 for further examination and allowance.

Discussion of Rejections Under 35 USC §112

Claims 31 and 33-34 were rejected under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Particularly, the Examiner points out that the first and second outputs of the adder are dangling.

Applicant amends claim 31 to more clearly claim the subject matter of the invention. In particular, the adder outputs that were previously dangling are identified as outputs of the system. The subject matter claimed in claim 31 most closely aligns with Figure 6 of Applicant's Specification, where the adder outputs correspond to the outputs of adders 146A and 146B. Applicant notes that the signals at these adder outputs correspond to reduced distortion output RF signals, as the jammer signals are substantially canceled.

Claims 33 and 34 depend from claim 31 and are believed to be allowable at least for the reason that they depend from an allowable base claim. Applicant believes the amendment overcomes the rejection and respectfully requests withdrawal of the rejection under 35 USC §112, second paragraph, and allowance of claims 31 and 33-34.

Discussion of Rejections Under 35 USC §102(b)

Claims 14, and 17-19 were rejected as allegedly anticipated by UK Patent Application publication number GB 2,343,572 to Tolson et al. (hereinafter Tolson). The Examiner contends that Tolson teaches every element of the claims.

Applicant has amended claim 14 to recite a circuit for reduction of distortion in a receiver that corresponds to the feed-forward embodiment described in Applicant's Specification, for example, at Figure 5 and 6 and the corresponding text at paragraphs [0039] through [0048]. In particular, the claim recites a circuit that includes "means for filtering the

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combined signal" output from the downconverter, "means for converting the filtered signal to the selected RF," "means for adding the received RF signal and the filtered RF signal to remove the jammer signal to generate an RF signal with reduced jammer signal amplitude," and "means, distinct from the downconverter, for frequency converting the RF signal with reduced jammer signal amplitude."

The claim thus includes a feedforward signal path from the downconverter, through the filter, upconverter, and adder. The adder sums the received RF signal with the filtered RF signal. A frequency converter then operates on this RF signal with reduced jammer signal amplitude.

This is not taught nor suggested in Tolson. Instead, Tolson only describes *feedback* techniques for controlling signal components. Indeed, the very title of Tolson is "RECEIVER WITH *FEEDBACK* SUBTRACTION OF UNWANTED SIGNALS TO CONTROL BANDWIDTH." (*emphasis added*). Therefore, Tolson does not set forth each and every element as set forth in Applicant's claim 14. Applicant respectfully requests reconsideration and allowance of claim 14. Claims 17-19 depend from claim 14 and are believed to be allowable at least for the reason that they depend from an allowable base claim. Applicant respectfully requests reconsideration and allowance of claims 17-19.

Discussion of Rejections Under 35 USC §103(a)

Claims 1-6, 8-13, 20-24, and 26-28 were rejected under 35 USC §103(a) as allegedly unpatentable over U.S. Patent No. 5,410,750 to Cantwell et al. (hereinafter Cantwell).

Applicant, by this paper, cancels claims 2, 4-5, 12, 21, without prejudice, thus rendering moot the rejection of those claims.

Applicant also amends independent claims 1, 11, and 20 to expressly recite circuits and methods of reduction of distortion using the feed forward techniques described in Applicant's Specification. In particular, each of the claims recites a frequency conversion operating on the output of an adder that produces a signal having substantially reduced jammer signal.

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To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be reasonable expectation of success. Finally, the prior art reference, or references when combined, must teach or suggest all of the claim limitations.

As noted above, Tolson fails to teach or suggest a feed-forward circuit or method for removing unwanted signals. Cantwell describes a GPS radio receiver operating in a high interference environment that is unlike the jammer signal environment described in Applicant's Specification. The environment described in Cantwell is also distinct from the environment described in Tolson where a broadband IF allows unwanted signals due to a lack of SAW filters corresponding to the multiple radio modes. *See, for example, Tolson*, page 1 paragraphs 3-4 and Page 2, middle paragraph. Cantwell fails to teach or suggest a circuit or method of removing unwanted signals that are out of a desired operating band and instead describe a high Interference to Signal (I/S) environment where the interference is present in the passband.

The teachings of Cantwell have little relation to the environment described in Tolson. Thus, there is little likelihood that the teachings of the two references can be successfully combined or that one would be motivated to combine the teachings of the two references.

Even if one were to somehow combine the teachings of Cantwell with Tolson, there is no teaching of a feed forward configuration. Furthermore, there is no suggestion or motivation to modify the teachings of Tolson in a manner that would result in a feed-forward technique. Therefore, independent claims 1, 11, and 20 are believed to be allowable because Cantwell and Tolson fail to teach all claimed elements, there is no motivation to modify the teachings of the references, and there is no evidence of a likelihood of success in combining the teachings of the references.

Applicant respectfully requests reconsideration and allowance of claims 1, 11, and 20. As noted above, independent claim 14 is also believed to be allowable. Claims 3, 8-10, 13, 17-19, 22-24, and 26-28 depend, either directly or indirectly, from one of claims 1, 11, 14, and

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20. Therefore, Applicant respectfully requests reconsideration and allowance of claims 3, 8-10, 13, 17-19, 22-24, and 26-28 at least for the reason that they depend from an allowable base claim.

CONCLUSION

In view of the foregoing, Applicant believes all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 858-845-5235.

Respectfully submitted,

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By: 
Howard H. Seo, Reg. No. 43,106

QUALCOMM, Incorporated
Attn: Patent Department
5775 Morehouse Drive
San Diego, California 92121-1714
Tel: 858-845-5235
Fax: 858-658-2502